

Application No.: 09/619,032

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Docket No.: 534462000312

AMENDMENTS TO THE CLAIMSRECEIVED
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Please amend the claims as follows:

Please cancel claims 2 to 3, 14, 17 to 25, 27, and 32, without prejudice or disclaimer.

This listing of claims will replace all prior versions, and listing, of claims in the application:

Claim 1 (currently amended): A method for hydrolyzing α -glycosidic bonds capable of being hydrolyzed by a polypeptide having an α -galactosidase activity comprising:

contacting a compound having the α -glycosidic bond with an effective amount of a polypeptide having at least a 95% [[70%]] amino acid identity to an amino acid sequence set forth in SEQ ID NO:4, having at least a 95% amino acid identity to an amino acid sequence as set forth in amino acids 1 to 364 of SEQ ID NO:4, or enzymatically active fragments thereof, wherein the polypeptide has and having α -galactosidase activity.

Claims 2 to 3 (canceled)

Claim 4 (currently amended): The method according to claim 1 wherein the polypeptide has the amino acid sequence as set forth in SEQ ID NO: 4 or an amino acid sequence as set forth in amino acids 1 to 364 of SEQ ID NO:4.

Claim 5 (currently amended): The method according to claim 1 wherein the polypeptide is recombinantly produced or is a synthetic enzyme.

Claim 6 (previously presented): The method according to claim 1 wherein the compound having the α -glycosidic bond is raffinose.

Claim 7 (previously presented): The method according to claim 6 wherein the raffinose is in raw beet sugar.

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Claim 8 (previously presented): The method according to claim 1 wherein the compound comprises raffinose, stachyose, verbascose, or a combination thereof.

Claim 9 (previously presented): The method according to claim 8 wherein the compound is contained in a member of the lentil or bean family, or both.

Claim 10 (original): The method according to claim 1 wherein the contacting is at a temperature of about 85°C.

Claim 11 (original): The method according to claim 1 wherein the contacting is at a pH of about 9.5.

Claim 12 (original): The method according to claim 1 wherein the contacting is at a temperature of about 85°C and a pH of about 9.5.

Claim 13 (previously presented): The method according to claim 1 wherein the α -glycosidic bond is an α -1,6 galactosyl bond or an α -1,6 galactosidic bond.

Claim 14 (canceled)

Claim 15 (currently amended): The method according to claim 1 wherein the polypeptide comprises a sequence having at least 50 amino acids identical to a contiguous region of amino acids 1 to 364 of SEQ ID NO:4 or SEQ ID NO:4.

Claim 16 (previously presented): The method according to claim 1 wherein the polypeptide has at least 97% amino acid identity.

Claims 17 to 25 (canceled)

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Claim 26 (currently amended): The method of claim 1, ~~claim 17, claim 18, or claim 20,~~ wherein the compound is a food.

Claim 27 (canceled)

Claim 28 (currently amended): The method of claim 1, wherein the compound having the α -glycosidic bond comprises a saccharide and the polypeptide is contacted with the saccharide under conditions which facilitate the hydrolysis of the saccharides, thereby catalyzing the hydrolysis of saccharides.

Claim 29 (currently amended): The method of claim 28, wherein the saccharide ~~is~~ comprises a polysaccharide or an oligosaccharide.

Claim 30 (currently amended): The method of claim 29, wherein the polysaccharide or oligosaccharide ~~is found in further comprises~~ a legume.

Claim 31 (currently amended): The method of claim 29, wherein the polysaccharide or oligosaccharide ~~is~~ comprises a raffinose, a stachyose or a verbascose, or a combination thereof.

Claim 32 (canceled)

Claim 33 (previously presented): A method for hydrolyzing α -glycosidic bonds in a compound comprising a raffinose, a stachyose or a verbascose comprising contacting the compound with an effective amount of a polypeptide having: an amino acid sequence having a least a 95% amino acid identity to an amino acid sequence set forth in SEQ ID NO:4; an amino acid sequence having at least a 95% amino acid identity to an amino acid sequence as set forth in amino acids 1 to 364 of SEQ ID NO:4; a sequence set forth in SEQ ID NO:4; or, enzymatically active fragments thereof, wherein the polypeptide has and having α -galactosidase activity.

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Claim 34 (new): The method of claim 33, wherein the polypeptide has at least 97% amino acid identity.

Claim 35 (new): The method of claim 33 wherein the contacting is at a temperature of about 85°C.

Claim 36 (new): The method of claim 33 wherein the contacting is at a pH of about 9.5.

Claim 37 (new): The method of claim 33 wherein the contacting is at a temperature of about 85°C and a pH of about 9.5.

Claim 38 (new): The method of claim 33, wherein the polysaccharide or oligosaccharide is found in a legume.

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